

Size: 5,866 acres

Mission: Provide operational and security support for intercontinental ballistic missiles and perform aerospace rescue operations

HRS Score: 39.23; placed on NPL in February 1990

IAG Status: Federal Facility Agreement signed in September 1991; Modification 11 signed July 1998

Contaminants: Oil, solvents, metals, acids, petroleum, and explosives residues

Media Affected: Groundwater, surface water, sediment, and soil

Funding to Date: \$56.0 million

Estimated Cost to Completion (Completion Year): \$69.7 million (FY2012)

Final Remedy in Place or Response Complete Date for All Sites: FY2007



Cheyenne, Wyoming

Restoration Background

The Air Force began restoration activities at F.E. Warren Air Force Base in FY84 with soil removal from the area later designated as Spill Site 4. In FY85, a Preliminary Assessment/Site Inspection identified 25 potentially contaminated sites. In FY86, the installation removed 500 tons of contaminated soil from the acid dry well site for off-site disposal. A Phase I Remedial Investigation (RI) began in FY87 and confirmed the presence of contaminants at 20 sites, which were later grouped into 10 operable units (OUs). The RI process also identified five plumes of trichloroethene (TCE)-contaminated groundwater. In FY89 and FY90, the installation conducted additional Removal Actions at Spill Sites 1 and 7. In FY90, the entire base was placed on the National Priorities List (NPL) because of the TCE-contaminated groundwater.

In FY92, the installation signed a no further action (NFA) Record of Decision (ROD) for the acid dry well site (OU4). In FY94, the installation submitted an NFA ROD for Fire Protection Training Area (FPTA) 2 (OU5). To minimize the risks associated with a contaminated groundwater plume potentially generated by Landfill 3, the installation began delivering bottled water to more than 20 families in the Nob Hill subdivision next to the base. The installation also began bioventing of petroleum hydrocarbon-contaminated soil at FPTA 1 (OU10).

In FY95, a packed-tower air stripper was installed as part of a 1-year Treatability Study for TCE-contaminated groundwater at Spill Site 7. The installation signed an NFA ROD for soil contamination at OU1 and a ROD for an Interim Remedial Action (IRA) using an evapo-transpiration (ET) cover at Landfill

6. The installation also was selected to test a two-phase vapor extraction system. A Restoration Advisory Board was formed.

In FY96, all sites underwent Relative Risk Site Evaluation. A design was completed for a Time-Critical Removal Action that involved rerouting the creek near Landfill 2C. This approach was disputed and was later revised. In FY97, the installation constructed a water line to provide drinking water to residents of Nob Hill. Construction began on the IRA ET cover at Landfill 6. In addition, RODs were signed for the installation of a RCRA D cap at Landfill 5A and a passive treatment wall for contaminated groundwater at Spill Site 7.

FY98 Restoration Progress

The design for the Landfill 6 cover was changed from an ET cover to a cover with a geosynthetic clay liner (GCL). Designs for the Landfill 6 GCL cover, the Landfill 5A RCRA D cover, and the Spill Site 7 passive treatment wall were completed. Construction of the Landfill 5A RCRA D cover began. The Engineering Evaluation and Cost Analysis and the Action Memorandum for a Non-Time-Critical Removal Action at Landfill 2C were finalized, and construction activities began according to Federal Facility Agreement (FFA) requirements. This Removal Action involved excavation and off-site disposal of waste.

A basewide master restoration schedule was created, and Modification 11 of the FFA schedule was negotiated and finalized. This modification reduced the time to achieve final remedy in place by 2 years, from 2009 to 2007.

Plan of Action

- Install the iron filings wall at Spill Site 7 in FY99
- Construct the GCL cover at Landfill 6 in FY99
- Begin comprehensive RI/FS efforts in Zones B and C, and complete RI field efforts in Zone A in FY99
- Conduct a basewide type Ia Five-Year Review in FY99
- Complete the IRA at Landfill 2C in FY99
- Complete construction of the RCRA D cover at Landfill 5A in FY99
- Continue exploring early Removal Actions and innovative technologies for expediting cleanup in a cost-effective manner

FY99 FUNDING BY PHASE AND RELATIVE RISK

